

**D+ Transportation (Continued)**

**C+ Bridges**

Nearly all of the approximately 115 County of Kern bridges are in reasonably good structural condition, with only two structures rated as functionally obsolete and structurally deficient. Currently \$200,000 per year is spent by the county on bridge maintenance; however, \$4 million in additional funding is desired for upgrades and replacements. Bridges owned and maintained in the county by other governmental jurisdictions are in similar status.

**C+ Rail**

Although Kern County is a major commercial crossroads for California, its Amtrak and long-haul freight "heavy" rail services along the San Joaquin Corridor share heavily-congested single-line track with frequent at-grade crossings. Tehachapi Pass traffic between Bakersfield and Mojave is limited to freight loadings; Amtrak buses move passengers between Bakersfield and Southern California. While numerous plans do exist for Corridor improvements to expedite traffic and meet impending health and safety requirements, funding availability for such projects seems uncertain. When implemented, high-speed rail should resolve most rail passenger movement problems—but not for more than a decade.

**D+ Flood Control**

Flood control concerns in Kern County primarily focus on the protection of Bakersfield and its surrounding region from Kern River overflows. Prior to the 1953 completion of Isabella Dam on the upper reaches of that river, the city experienced major flooding in 1867, 1893 and most recently, in 1950, just as the county's population began a significant increase. The dam is owned and operated by the U.S. Army Corps of Engineers and now supports not only flood control but also recreational, agricultural and hydroelectric uses. Due to cost considerations, only a few other much smaller flood control facilities have been constructed since Isabella's completion. The dam (and the related levee system through Bakersfield) is now under scrutiny due to seismic concerns and the increased awareness of vulnerabilities attributed to earthen dams and levees. Kern County has no consistent program dedicated to flood hazard reduction.

**The Infrastructure Report Card Committee (IRCC) Represents:**

- The American Society of Civil Engineers, Southern San Joaquin Branch, as lead organization (ASCE)**



- The American Public Works Association, Kern Branch (APWA)**



- The American Council of Engineering Companies, California, Kern Chapter (ACEC)**



**Important Note**

Kern County's citizens and its business community will require progressive infrastructure systems if they are to thrive in the years to come. Additionally, many critical functional improvements will be needed to protect our environment. The letter grades assigned herewith identify the infrastructure systems that are judged by the local ASCE Infrastructure Report Card Committee to be doing well and those in need of upgrading. This Report Card is not an evaluation of the performance or efficiency of our public agencies, as they must operate within available resources and other constraints.



**2009 Report Card for Kern County's Infrastructure**

Air Quality	D
Energy	B
Solid Waste	A
Waste Water	B-
Domestic Water	B-
Northern Calif. Delta	D
Schools	B-
Parks	C-
Transportation	D+
Airports	B
Roads	D
Highways	D
Transit	C-
Bridges	C+
Rail	C+
Flood Control	D+
<b>Kern County's Infrastructure</b>	<b>C-</b>

## D Air Quality

Kern County's air is rated highly unhealthy due to several recognized pollutants, especially NOx. Mobile sources now emit about 480 tons per day (TPD) of NOx. Major reductions are necessary to meet mandatory standards: e.g., a reduction of about 290 TPD is required for PM2.5 attainment (deadline 2019). Kern's transportation subventions will not be immediately affected unless new projects further degrade air quality. However, implementation of the California Global Warming Solutions Act of 2006 (AB 32) includes such stringent requirements as: a reduction of greenhouse gas emissions throughout California to 1990 levels by 2020 (approximately 8% below 2005 conditions); and a further reduction to 20% below 1990 levels by 2050 (approximately 34% below 2005 conditions).

## B Energy

Kern County produces significant amounts of California's energy, including: oil (77%), refined fuel (5%), natural gas (65%), electricity (9%) and wind (about 4% of nation's entire source output, and 28% of California's). The county is very well positioned to help provide for future renewable energy (wind & solar) needs. Significant projects are in various stages of planning and development, and major regional electrical transmission lines are currently being upgraded for near-term demand and future capacity. California electric corporations are mandated to achieve a 20% procurement from eligible renewable energy resources by 2010; such procurement is currently about 13%, with the percentage actually decreasing since 2003. Whether or not contracted developments will mitigate the procurement requirement is uncertain.

## A Solid Waste

Kern County's lead agency for compliance with California's Integrated Waste Management Board (IWMB) requirements is its Waste Management Department, which plans, constructs and operates nearly 30 permitted disposal facilities of cutting-edge quality, supplemented by an award-winning City of Bakersfield green waste facility. City and county staffing seems superior, reflected both in excellent report records from reviewing agencies and in comprehensive written plans for service growth and development. Capital funding for program sustainability is available from fee-based enterprise accounts. Overall, Kern's solid waste management resources seem extremely well positioned to respond to the IWMB's stated goal of "Zero Waste."

## B- Waste Water

The twelve major Kern County cities reviewed have plants that generally perform well, with a total rated treatment capacity of 97 million gallons per day (gpd). They serve about 80% of county residents, handling some 59 million gpd of existing wastewater flow. However, the majority of the plants are "organically overloaded," receiving waste of higher strength than assumed in their design. New groundwater limits on nitrogen content being implemented by the Regional Water Quality Control Board may require Kern's municipalities to convert to nitrification and denitrification treatment processes. While the City of Bakersfield is planning to meet such requirements through plant expansion, not all local communities have been able to address them. Although collection systems were not included in this review, newly-adopted state-wide sewer discharge standards are also requiring many municipalities to assess deficiencies in those systems relative to impending compliance deadlines.

## B- Domestic Water

The domestic water supply infrastructure for most Kern County residents is average to good. However, systems located outside urban Bakersfield typically have one or more issues or problems: reliance predominantly or completely on ground water, with limited current capacity, falling water tables, no expansion capability, and water quality concerns; and funding sufficient only for current operations, with no allowance for adequate maintenance, repair or replacement. Urban Bakersfield systems have multiple water sources and groundwater banking programs, and are generally better financed. The Bakersfield urban area has also recently expanded or constructed surface water treatment plants that deliver high quality water. One significant issue that does impact urban Bakersfield is the reliability of water supplies from the State Water Project.

## D Northern California Delta

About two-thirds of California residents and much of the state's agricultural industry rely on water pumped from the Sacramento-San Joaquin River Delta. In an "average" year, Kern County receives more than 20% of its water from that source. In 2006, a State of Emergency was declared over the deterioration of the Delta's levee systems, but only immediately necessary repairs and some future planning have been carried out, even though a 75% probability exists over the next 30 years for a magnitude 6.5 earthquake affecting the Delta. A long-discussed peripheral canal project to channel water to Southern California around the Delta still has not been implemented. This 2008 Kern County infrastructure Report Card concurs with the grade awarded by the Sacramento Section of ASCE in 2006 after an in-depth review of the Delta's condition.

## B- Schools

Some 272 schools are extant in 8,170 square mile Kern County, the largest percentage in the Greater Bakersfield area. Many, while safe and well maintained, are more than 25 years old and need upgrades and renovation to facilitate student learning. Including space to house the 14,000 additional students forecast in the next five years, it is estimated that \$250 million in state and local funds will be needed annually over that period for school facility construction and renovation. Surveys indicate that more than 60% of Kern's districts may ask voters for increased capital funding, but substantial State support will also be required. However, that support, both for capital construction and for deferred maintenance, is often inadequate and inconsistent.

## C- Parks

Most existing park facilities in Kern County are in good or better condition, but many do not meet the minimum standards for park and recreation facilities established by the National Recreation and Park Association. Further, some park and recreation infrastructure does require urgent repair and updating (e.g., irrigation systems that are 30 to 40 years old and inadequate play fields and playground equipment). Current deficiencies in funding for routine maintenance and upkeep of existing facilities and for meeting projected new service demands are also a serious concern. Existing facilities are clearly inadequate to respond to the county's future population growth forecasts.

## D+ Transportation

### B Airports

Kern County's regional airport system includes 7 airports operated by the Kern County Department of Airports, 4 municipally owned airports, 3 airport districts, 2 privately owned public-use airports, and 2 military facilities. The 14 public airports were evaluated for this Report Card, and the existing infrastructure and facilities were found in good condition. Adequate access and overall capacity are being maintained. Operations are within accepted safety standards, as well as in compliance with other regulatory criteria specific to security, airspace controls, noise levels, and community compatibility issues. Annual funding currently exists for maintenance, repair, and capacity enhancements, but due to prevailing economic conditions, concern does exist with regard to future maintenance funding levels.

### D Roads

There are over 3,100 miles of rural roads in Kern County, and an estimated \$200 million maintenance and improvement deficit exists—for several years, the Kern County Roads Department received no funding for maintenance. The City of Bakersfield contains some 1,100 miles of streets, and its estimated maintenance and improvement deficit is estimated at \$90 million. The total deficit for the 10 other incorporated communities in Kern County is estimated to be approximately \$60 million. In 2005, congestion is believed to have cost citizens 3.5 million hours and \$66 million in Bakersfield alone. Street and road maintenance requirements throughout Kern County are clearly substantially underfunded.

### D Highways

Kern County shares in Southern California's general need for highway and freeway improvements to address a plethora of pressing issues, including: poor interconnectivity, traffic congestion, rail crossing delays, maintenance deferrals, inadequate capacity, rising fuel costs, and health and safety concerns. While the county was fortunate to receive \$630 million in one-time earmarked federal funds in 2005, its income from local impact fees and various state and federal sources is generally insufficient to meet identified needs. The backlog of unfunded critical projects totals some \$1.5 billion in metropolitan Bakersfield and about \$500 million for the remainder of Kern County. This funding problem is exacerbated by the fact that Kern is not a self-help county (no sales tax), and is thus neither eligible nor favored for some state funding sources.

### C- Transit

The size and geography of Kern County and its tendency to urban sprawl in more heavily-populated areas have been counter-productive to the development of effective transit services. However, two transit systems are extant in the county: Golden Empire Transit, serving metropolitan Bakersfield, and Kern Regional Transit, operated by the County of Kern as an outreach to rural areas. GET operates about 80 busses traveling nearly 4 million miles per year, and KRT has some 60 vehicles that record about 3 million miles annually. Each of the systems is heavily committed to clean-burning CNG. While ridership and related fare income have recently increased as a reflection of the U.S. economy, in neither case has that income reached as much as 25% of the operating budget.